

XXII. *Notes on the Habits of Australian Hymenoptera.*

By F. SMITH, Esq.

[Read May 5th, 1851.]

ON THE HABITS OF *LESTIS BOMBYLANS*.

(NEW HOLLAND.)

MR. KER, a gentleman who resided some years in Australia, informed me that this insect is very common in all parts of the country. He found it inhabiting the hollow stem of a *Zamia*. It was at that time in a dormant state, it being the winter season. The entrance to the tube was rounded like the mouth of a flute. The stem of the *Zamia* or grass tree is straight and pithy, and easily excavated. The cells, about a dozen in number, were placed one above the other, separated by slight partitions.

I will embrace this opportunity to correct an error which has crept into all the works in which this genus is described or alluded to. Fabricius, in his *Entomologia Systematica*, describes under the genus *Apis* two bees from New Holland—*Apis bombylans* and *Apis muscaria*—both in the cabinet of Sir Joseph Banks. St. Fargeau, in the 10th vol. *Encycl. Meth.*, and also in his later work, the *Histoire Naturelle des Insectes*, has described the *Apis muscaria* as the female of his genus *Lestis*, and *A. bombylans* as the male. Now on examining the original specimens in the Banksian Cabinet, I find the *Apis muscaria* is a male, of the genus *Xylocopa*; and *A. bombylans* a female, of the genus *Lestis*. St. Fargeau has also committed another error by reversing the characteristics of the sexes; those given as the male belong to the female, and (vice versâ) both are however too general to aid much in discriminating the species. I will endeavour to remedy this insufficiency by giving more tangible characters, and by describing a second species of this genus.

Sp. 1. *Lestis bombylaus*.

*Apis bombylans*, Fab. Ent. Syst. 2, 338, 104, ♀.

*Centris bombylans*, Fab. Syst. Piez. 358, 19.

Female (length 6-7 lines), dark blue-green; the face and cheeks clothed with a thin silvery white pubescence; the thorax is strongly punctured, except the disk, which is smooth and shining; the wings dark fuscous, with a violet reflection; and the apex of the abdomen has a fringe of white pubescence. The pubescence on the legs is black.

Male (6-7 lines), brassy green: head; the clypeus has an oblong white stripe, broadest towards the base of the antennæ; also a narrow white line along the inner margin of the eyes, reaching their vertex. The thorax has two triangular patches of yellow pubescence, separated by a smooth space the exact width of the distance between the eyes; a patch of the same colour on the sides of the breast, and on the tubercles; the wings slightly fuscous; the anterior and intermediate tibia and tarsi have on their posterior margins a pale yellow fringe; that on the posterior legs is black. The apex of the abdomen has some long dark fuscous pubescence.

Sp. 2. *Lestis æratus*, new sp.

Female (7-8 lines), brassy green; the pubescence on the face pale yellow, the thorax punctured as in the preceding species; the wings slightly fuscous; the pubescence at the apex of the abdomen is pale yellow.

Male (7-8 lines), brassy; the face is marked as in the preceding species, but the colour, instead of being white, is yellow; the patches of pubescence are situated as in the preceding, but are much more dense, and of a bright yellow; wings hyaline, slightly fuscous; all the legs are fringed with bright yellow pubescence.

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ON THE HABITS OF ABISPA, A SOLITARY AUSTRALIAN WASP.

Mr. Ker also informed me that this wasp constructs a nest of clay; it is thimble-shaped, about three inches in diameter, and three and three-quarters in height; the rounded end is upper-

most. About the centre of the bottom flat surface the wasp constructs a most beautiful, funnel-shaped entrance, the pipe of which is continued a short way within the shell of the nest; at the top a single layer of cells are constructed without regularity of form or disposal; only a single wasp was observed either building or furnishing the nest. Unluckily the nest, which Mr. Ker describes as being one of the most beautiful he ever saw, was broken on the voyage to this country.

The following passage, in Mitchell's Expedition into Eastern Australia (vol. i. p. 104), can hardly refer to this species, as it appears to have been some gregarious wasp by which the travellers were attacked.

"At seventeen miles we entered a plain, where grew trees of the *Acacia pendula*, and we traversed it in the most elongated direction, or to the south-west. On entering the wood beyond, a sudden extreme pain in my thigh made me shout, before I was aware of the cause. A large insect had fastened upon me, and on looking back I perceived Souter, 'the doctor,' defending himself from several insects of the same kind. He told me that I had passed near a tree from which their nest was suspended: and it appeared that this had been sufficient to provoke the attack of these saucy insects, who were provided with the largest stings I had ever seen. The pain I felt was extreme, and the effect so permanent, that when I alighted in the evening from my horse, on that leg, not thinking of the circumstance, I fell to the ground, the muscles having been generally affected. The wound was marked by a blue circular spot, as large as a sixpence, for several months."

#### EXPLANATION OF PLATE.

Plate XVI. fig. 1. *Polistes lanio*; 2. *Trigonalys compressa*; 3. Nest of a wasp formed of clay; 4. Clay nest of *Abispa*; 5. *Abispa ephippium*?

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